

Commonwealth of Virginia

Operational Review Task Force

Operational Review of the Commonwealth's Usage of Printers, Copiers and
Fax Machines

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Operational Review of the Commonwealth's Usage of Printers, Copiers and Fax Machines

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1. Executive Summary –

In completing the review for the Commonwealth's Usage of Printers, Copiers and Fax Machines, the following were the Task Force's goals:

- Determine total spend at the state level for your area,
- Suggest a set of "best practices" to employ to reduce costs (consumption, price or both),
- Recommend a reasonable level of consumption, price or both that could be achieved if the best practices you recommend were to be implemented,
- Recommend a reasonable level of cost savings that could be achieved.

1.1 Background

The following Printer, Copier, and Paper recommendations were presented in 2006:

- (1) Promote a printer, copier, and paper savings awareness campaign – promoting print efficiencies, cost-savings, and best practices.
- (2) Implement print management best practices
- (3) Move toward the phasing out of fax machines
- (4) Move toward or transition to the implementation of managed print services – as appropriate for meeting agency and department mission and goals.
- (5) Encourage agencies to use high volume print shops for large print jobs.
- (6) Use funds from the Productivity Investment Fund to develop a statewide strategic plan for efficient and cost-effective print management.

Although some efforts have been made to identify and place as many printers and copiers onto the network, a significant number of machines still exist outside of that framework.

1.2 Key Points

Communications and the digital world are changing the way we manage our day-to-day activities. iPads are used in meetings. Texting has become a way of life. Smart blackboards are used to communicate across the state. Printing can be controlled by a mobile device. Therefore, today's reasons for printing a document have changed and really should be examined in more detail than this Task Force was chartered to complete.

Managed Print Services (MPS) involves managing hardcopy device fleets (copiers, printers, multi-function devices, and fax machines) in a unified fashion. This service offered by printer manufacturers is designed to assist the business end-user to streamline management and minimize costs associated with printing and imaging. Managed Print Services can help to cut ownership costs, enhance productivity and reduce energy consumption.

Outside of paper-enterprise costs and new printer, copier & fax costs, the exercise of collecting information for copiers, printers, multi-functional devices, scanners and faxes is limited. VITA is able to track those devices currently on the network. However, the Commonwealth cannot track the numerous standalone desktop printers and other leased machines. Based on a series of interviews, the costs of toner cartridges, paper and maintenance is not tracked in the current accounting system. This is simply

due to the ability to acquire products individually and list them generically as office supplies. Printers can be acquired at the individual level because the cost is less than \$1,000.

Therefore, unless more detailed studies are compiled, many agencies and departments have a limited understanding of what is being spent on printing, whether internal or external. Typically, this is because costs for supplies, service, hardware and support are buried across multiple budget lines.

The Task Force's recommendation is to complete a more detailed analysis of various agencies and/or departments to realize potential savings. Actual data and agree on the cost structure to calculate the department's or agency's baseline. The assessment is conducted over a period of time that represents a typical environment in the Commonwealth. Three key areas should be given focus: the Customer, the Process and the Environment.

2. Previous Studies and Outcomes

2.1 Summary Statement

The current 2010 Operational Review of the Commonwealth's usage of printers, copiers and fax machines follows an earlier Operational Review, conducted in 2006, which focused on single operational topics common to nearly every Virginia state government agency and institution: Energy, Fleet, Travel, Communications, Print, Mail Solid Waste, Water, Return-to-Work and Receivables.

The overall intent of the 2006 review was to develop recommendations for increasing state government performance and cost-effectiveness in its service to the citizens of Virginia. The method centered on the use of cross-boundary, collaborative teams of experts with a full appreciation of the should improve performance across the state government enterprise.

This review was inspired by the Virginia General Assembly Cost Cutting Caucus (<http://vacostcutting.blogspot.com>) and Executive Branch progress in formalizing and implementing performance management (www.vaperforms.virginia.gov).

2.2 Recommendations from Previous Studies

The following Printer, Copier, and Paper recommendations were presented in 2006:

- (7) Promote a printer, copier, and paper savings awareness campaign – promoting print efficiencies, cost-savings, and best practices.
 - Promote best practices
 - Promote paper recycling and paper standards
 - Educate agencies and departments about print management
 - Encourage agencies and departments to document their current print environment and to envision their future print environment
 - Reduce agency and state cost of print, and
 - Place the right printer and copier (or Multi-functional Peripheral) at the right place, at the right time, and for the right purpose.
- (8) Implement print management best practices
 - Replace stand-alone copiers, faxes and printers with Multi-function al machines
 - Rent copiers, printers, and Multi-function al machines (instead of purchase)
 - Centralize the procurement of copiers, faxes, printers, and Multi-function al machines
 - Establish print manager roles (print output “czar”) in each agency
 - Develop a policy aimed at reducing paper consumption and printer/copier consumables
- (9) Move toward the phasing out of fax machines
 - Personal computers and Multi-function Peripherals have the capability to fax documents.
 - Eliminating fax machines and utilizing personal computers or Multi-function Peripherals realize significant cost reductions.
- (10) Move toward or transition to the implementation of managed print services – as appropriate for meeting agency and department mission and goals.
 - Managed Print Services (MPS), offered by an external provider to optimize or manage an organization's document output, may include assessment services, asset management, output management services, and support services.

- The external service provider either owns or leases the hardware, with the customer paying a monthly or quarterly fee – based on a cost per page or cost per seat. This direction is more feasible for a mid-size or large government organization with 100 or more employees.

(11) Encourage agencies to use high volume print shops for large print jobs.

- Virginia Correctional Enterprises (VCE), a printing service within state government, continues to demonstrate its ability to produce quality and timely print for state agencies and departments – at a cost savings.
- With some waivers as needed, state procurement regulation mandates that departments, institutions, and agencies of the Commonwealth purchase goods and services produced or manufactured by state correctional facilities.

(12) Use funds from the Productivity Investment Fund to develop a statewide strategic plan for efficient and cost-effective print management.

The 2010 Operational Review provides an analysis of the 2006 recommendations and current progress, as well as a forecast of future needs to ensure that Virginia is a leader in the use of cost saving initiatives, while achieving efficiency and effectiveness in service delivery to stakeholders.

3. Current Situation

3.1 Summary Statement

According to the latest data, VITA supports 5,600 network printers. Along with these supported network devices, there are approximately 20,000 desktop printers in the environment. The Commonwealth of Virginia environment is made up of approximately 50,000 users.

This means the current ratio of enterprise users to available print devices is an astounding 1.95:1. With that being stated, if we remove desktop devices from the equation the ratio is a more palatable 8.93:1. This ratio is within the margin error for the generally accepted industry standard of 8 per 1 print device.

The print hardware requirements for supported network print devices are defined in attachment 10.1.3 of the VITA Comprehensive Infrastructure Agreement. The actual device standards are documented in the VITA End-User Services Hardware Standards Book (VITA-DCS0004, Version 1.11). Printers are classified as small monochrome, medium monochrome, large monochrome, color, small Multi-function, and large Multi-function Peripherals.

VITA does not manage or advise agencies on the development of their print strategies, and as such, each agency is empowered to build a printing infrastructure which they believe will satisfy their employee's needs and the business of the agency. Details were provided by the Department of Accounts.

SPECIAL NOTE: Legislative, judicial and higher education were not taken into consideration in this report and was viewed as outside of the scope in this report.

3.2 Printers and Copiers

3.2.1 Printer and Paper Costs

The information found below only accounts for printers, copier, fax machines and paper costs that are properly assigned an object code in the accounting system. The information below does not account for the following:

- Desktop printers, copiers, fax machines, scanners or any other multi-functional device acquired for less than \$1,000
- Non-networked printers and copiers, either leased or purchased outside of the current VITA/NG agreement
- Consumables, such as toner cartridges
- Telephone or fax lines to support the machines
- External printing costs
- Paper acquired and classified as office supplies
- State-owned storage sites for paper and printed materials
- Third-Party offsite storage costs
- Recycling and destruction of printed materials costs

Year	Paper-Enterprise Cost	New Printer, Copier & Fax Costs
2002	\$ 42,340,117	\$ 9,325,910
2003	\$ 35,654,005	\$ 8,218,569
2004	\$ 35,839,660	\$ 7,931,692
2005	\$ 38,400,996	\$ 7,673,030
2006	\$ 37,702,417	\$ 7,499,837
2007	\$ 39,116,353	\$ 7,513,318
2008	\$ 26,042,112	\$ 7,937,441

2009	\$ 32,805,053	\$ 7,941,744
2010	\$ 31,313,941	\$ 7,527,530

Table 1 - Information Provided by the Office of the State Comptroller

3.3 Top Ten Network Print Service Agency Customers

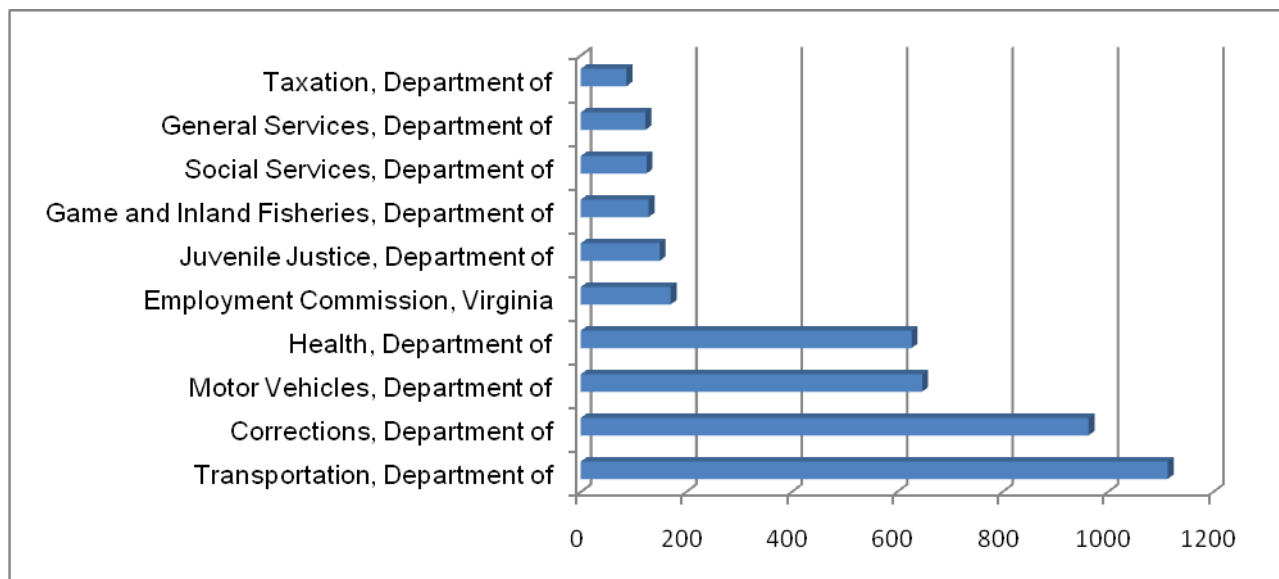


Table 2 - Top Ten Network Print Service Agency Customers

3.4 State of Unmanaged Printing

According to a Forrester study, *Implementing Managed Print Services (MPS)*, “the state of unmanaged printing in many environments creates immediate benefit from optimization. These revolve around too any non-networked devices and no central management. Enterprises most in line for this level of efficiency had:

- **A high percentage of non-networked printers.** Most offices have a diverse assortment of desktop and network-connected devices. Enterprises surveyed had up to 40% non-networked devices —mostly printers in offices.
- **Just too many device models.** Distributed purchasing leads to the accumulation of many device models — not only across manufacturers’ product lines but within a given vendor’s 30 or 40 models. This leads to inefficient supply management for consumables, excessive maintenance costs, and inability to incorporate devices into business processes.
- **For many, no centralized management.** While many offices appear modern, the use of printers, faxes, copiers, and scanners is often unplanned, not centrally coordinated, and hides significant areas of waste.
- **High costs and underused equipment.** In most organizations, printers, fax machines, and scanners seem to magically multiply. Most enterprises surveyed do not count the amount of money spent or the tax on the environment. Age (almost seven years on average) and low utilization— about 15 minutes of a typical day — lead to higher spending than needed. Technical support for printers constitutes almost 30% of IT and help desk costs.”

3.4.1 Computers-to-Network Printers by Top Ten Departments

The agency customer totals and the print ratio for the top ten agencies utilizing the VITA network print service is shown above. It has been shown that agencies which have ratios greater than 8:1 are typically those in which the culture of owning and relying on a personal desktop printer is the most ingrained. Another possibility could be the higher number of satellite offices throughout the Commonwealth.

Agency	Supported Computers	Printers	Ratio of Computers to Network Printers
Taxation, Department of	1264	87	14:1
General Services, Department of	696	123	6:1
Social Services, Department of	5138	125	41:1
Game and Inland Fisheries, Department of	505	129	4:1
Juvenile Justice, Department of	1747	150	12:1
Virginia Employment Commission	2094	171	12:1
Health, Department of	5498	628	9:1
Motor Vehicles, Department of	2593	648	4:1
Corrections, Department of	6360	964	7:1
Transportation, Department of	6124	1114	5:1

Table 3 - Ratio of Computers-to-Network Printers by Top Ten Departments

3.4.2 Printers and Copiers by Secretariats and Associated Departments

The following information is based on networked printers and copiers currently being by VITA and Northrop Grumman. Printers, scanners, fax machines, multi-functional devices and copiers not on the network are not included.

SPECIAL NOTE: VITA and Northrop Grumman does not bill those departments, agencies, divisions or offices listed below that has N/A. This could be due to several reasons, including those machines that could be under an unexpired and existing lease. The cost to close that lease early would increase the costs. Therefore, when the lease does expire, the expectation is that the new machine would be managed under the umbrella of VITA and Northrop Grumman.

Another reason is that offices in the field have the perception that it is easier to set up a standalone unit with a separate maintenance and support agreement.

Please note the lack of available information even though it is agreed by the Task Force that these machines must exist in the department or agency. The decision to focus on moving forward in a positive direction and in providing recommendations made later in this report.

Secretariat of Administration	Printers and/or Multi-functional Devices	Copiers
Compensation Board	2	N/A
Council on Human Rights	N/A	N/A
Department of Employment Dispute Resolution	1	N/A
Department of General Services	123	1
Department of Human Resource Management	16	N/A

Department of Minority Business Enterprise	3	N/A
State Board of Elections	13	N/A

Table 4 - Secretariat of Administration

Secretariat of Agriculture & Forestry	Printers and/or Multi-functional Devices	Copiers
Department of Agriculture and Consumer Services	64	N/A
Department of Forestry	57	2

Table 5 - Secretariat of Agriculture & Forestry

Secretariat of Commerce and Trade	Printers and/or Multi-functional Devices	Copiers
Board of Accountancy	1	N/A
Department of Business Assistance	4	N/A
Department of Housing and Community Development	18	N/A
Department of Labor and Industry	18	N/A
Department of Mines, Minerals and Energy	40	2
Department of Professional and Occupational Regulation	32	3
Tobacco Indemnification and Community Revitalization Commission	N/A	N/A
Virginia Economic Development Partnership	N/A	N/A
Virginia Employment Commission	171	46
Virginia Housing Development Authority	18	N/A
Virginia Racing Commission	1	N/A
Virginia Resources Authority	N/A	N/A
Virginia Tourism Corporation	N/A	N/A

Table 6 - Secretariat of Commerce and Trade

Secretariat of Education	Printers and/or Multi-functional Devices	Copiers
Department of Education Headquarters	41	1
Public Instruction	N/A	N/A
Virginia Community College System (VCCS)	N/A	N/A
State Council of Higher Education for Virginia (SCHEV)	8	N/A

Table 7 - Secretariat of Education

Secretariat of Finance	Printers and/or Multi-functional Devices	Copiers
Department of Accounts (DOA)	18	1
Department of Planning and Budget (DPB)	7	N/A
Department of Taxation	87	1
Department of the Treasury	19	N/A
Unclaimed Property Division	N/A	N/A

Table 8 - Secretariat of Finance

Secretariat of Health and Human Resources	Printers and/or Multi-functional Devices	Copiers
Department for the Aging (VDA)	2	N/A
Department for the Deaf and Hard of Hearing (VDDHH)	N/A	N/A
Department of Health (VDH)	628	4
Virginia Department of Health Professions (DHP)	N/A	N/A
Department of Medical Assistance Services (DMAS)	30	N/A
Department of Behavioral Health and Developmental Services (DBHDS)	46	N/A
Department of Rehabilitative Services (DRS)	72	10
Virginia Department of Social Services (DSS)	125	10
Department for the Blind and Vision Impaired (DBVI)	24	N/A
Virginia Board for People with Disabilities (VBPD)	1	N/A
Virginia Foundation for Healthy Youth (VFHY)	N/A	N/A
Office of Comprehensive Services Act (CSA)	N/A	N/A

Table 4 - Secretariat of Health and Human Resources

Secretariat of Natural Resources	Printers and/or Multi-functional Devices	Copiers
Department of Conservation and Recreation	50	2
Department of Environmental Quality	48	18
Department of Game and Inland Fisheries	129	2
Department of Historic Resources	6	N/A
Marine Resources Commission	9	N/A

Virginia Museum of Natural History	3	1
Virginia Council on Indians	N/A	N/A

Table 5 - Secretariat of Natural Resources

Secretariat of Public Safety	Printers and/or Multi-functional Devices	Copiers
Alcoholic Beverage Control	86	N/A
Commonwealth's Attorneys' Services Council	N/A	N/A
Correctional Education	18	2
Corrections	964	20
Criminal Justice Services	9	N/A
Emergency Management	43	N/A
Fire Programs	11	N/A
Forensic Science	44	8
Governor's Office for Substance Abuse Prevention	N/A	N/A
Juvenile Justice	150	N/A
Military Affairs	3	N/A
Parole Board	N/A	N/A
State Police	65	N/A
Department of Veterans Services	12	N/A

Table 6 - Secretariat of Public Safety

Secretariat of Technology	Printers and/or Multi-functional Devices	Copiers
Center for Innovative Technology	3	N/A
Virginia Information Technologies Agency (VITA)	23	1

Table 7 - Secretariat of Technology

Secretariat of Transportation	Printers and/or Multi-functional Devices	Copiers
Department of Aviation	6	N/A
Department of Motor Vehicles	648	N/A
Department of Rail and Public Transportation	4	N/A
Department of Transportation	1,114	179

Motor Vehicle Dealer Board	4	N/A
Virginia Port Authority	N/A	N/A

Table 8 - Secretariat of Transportation

4. Best Practices and Trends

4.1 Printer, Copier and Multi-functional Products

This year over 1.2 million office multi-function systems will be installed in the United States and the movement continues to grow. These systems provide printing, copying, faxing, and scanning features in one cost-effective device. The basic logic behind these systems is obvious: it is just practical to combine these similar functions for cost savings and fewer devices to supply.

However, some of the largest reasons behind the rapid implementation of these systems extend beyond cost savings. Multi-functional Peripherals can merge with document management software to allow process automation and deliver bottom line results. Modernized Communication: Multi-functional systems can email, fax and print together. Scan to email functionality delivers paper documents securely to their recipients as email attachments. Fax routing directs incoming faxes to email addresses.

Automated Business Processes: Multi-functional systems offer a convenient on-ramp to get paper onto a digital network. New capture software provides the technology for information to be read from scanned documents where it can be routed through a pre-defined workflow. Expanded Security Features: Security and compliance are hot new issues for virtually every industry. Multi-functional systems can help enhance your corporate security with a secure Electronic Document Management System.

According to IDC in its report, **IDC MarketScape: Worldwide Managed Print Services 2010**, a number of unique trends emerging in this dynamic market are:

- “Increased service portfolio that address enterprise focus beyond fleet management and services beyond print infrastructure.
- Professional services capabilities around both department-specific and horizontal document processes.
- MPS and document process outsourcing (DPO)—centric hardcopy devices specifically developed to integrate and add value to output infrastructure and document processing.
- Integrated document software offerings and architecture.”

4.1.1 Best Practices for a Managed Print Services Environment

The following items are typical characteristics of medium and large departments or agencies:

- Fewer than 10 model types
- Sustainability and compliance/security measured and updated monthly
- ALL devices managed/monitored remotely
- Organization-wide contracts with agency specific SOW's / SLA's
- Organization-wide standards set and measured
- SLA targets increase as performance increases
- Critical Performance Initiatives move into SLAs
- Leverage capabilities that encourage less paper: fax server solution, print controls at user level; document management middleware to scan directly into repositories
- No Devices unconnected
- Employee-to-device ratio 10:1
- Multiple Report Generation
- Annual assessments
- Commercial Print Initiatives (i.e., Virginia Correctional Enterprises)
- Incorporation of Mobile Workforce

4.2 Enterprise Content Management

The volume and variety of unstructured content in enterprises should continue to increase as department and agencies create documents, emails, Web content and other records. The Commonwealth has many requirements in its ability to create, distribute, search, tag, archive, and version all of these different types of content. Enterprise content management systems provide critical support for those workers who should find content quickly.

Trends are now integrating enterprise content management with document management and managed print services. Content can be transactional, business-oriented or promotional. Therefore, increased types of communications, digitization of documents and other assets (not just scanning), records management, archiving, analytics and web content should all be integrated with managed print services.

4.3 Communications and Electronic Presentment

One major cultural shift is the move away from paper and into that of electronic presentment. According to InfoTrends in its January 2010 report, *Road Map 2010: Document Outsourcing*, “about 70% of respondents to last year’s document outsourcing study indicated that movement to electronic presentment was driven by customer demand.

Today, customers and internal stakeholders demand Web access to accurate, timely, and pertinent business information. The other top drivers for e-presentment services included increasing costs associated with printing and mailing, and the ability to automate workflow. For electronic presentment alone, two-thirds of respondents to the same document outsourcing study expect volume to increase.”

4.4 Trends in Managed Print Services

When considering the many costs that a department or agency has to expend, one of the most misunderstood is that of printing costs. Managed Print Services (MPS) includes a broad array of services from break-fix, supplies replenishments, help desk, and software solutions. MPS today focuses on printer products as well as continuous monitoring, product rationalization, and electronic document process improvements. These on- or off-site services include office fleet management, production center management and mailroom management.

In a survey, *Controlling Print Costs with a Document Management Solution*, the Gartner Group “estimates that as much as 30% of organizations’ print costs can be eliminated with simple technology solutions. Paper has always been an inefficient medium for conducting business processes, and recently has become a key focus for Business Process Improvement (BPI) initiatives. The main reasons for a department or agency to move towards the paperless environment can fall into two basic categories:

- **Operation Efficiency and Business Process Improvement.** Using a digital repository can improve productivity. This is an obvious benefit. Any time you can reduce the time required to perform a required task, that time can be applied elsewhere. A basic online search for a customer file requires about 5 seconds. To accomplish the same information lookup with a physical file cabinet can take 10 – 25 minutes, or perhaps even days if the file is held in offsite storage. This is just for basic lookups, and not complex searches, which could take weeks if performed through the physical file system.
- **Risk Reduction.** An Enterprise Content Management/Document Management system allows for the backup of critical files. What would happen to an organization if their file room was destroyed by a fire or flood? Business Continuity Planning is a critical theme today, allowing a department or agency to insure that a disaster of any kind will not bring business to a halt. Scanning paper files provides the ability to backup and restore key business documentation.

4.5 Continued Focus on Green Initiatives

According to InfoTrends in its January 2010 report, *Road Map 2010: Document Outsourcing*, “policies around recycling, environmental-sustainability, and other green initiatives were “extremely” or “very important” to respondents.” This includes reduced paper consumption.

The Environmental Protection Agency (EPA) reports:

- The average office worker goes through 10,000 sheets of copy paper a year.
- Each employee in a typical business office generates 1.5 lbs of waste paper per day.
- Reducing paper production by a ton saves the equivalent of 4,100 kWh of energy and 7,000 gallons of water. (Source: *Don't Let Paper Have the Last Laugh*)
- Every aspect of the paper storage process adversely impacts a business' budget and the environment as a whole. These financial drawbacks of paper storage include the purchase of paper, personnel resources spent filing and finding documents, increase of square footage for physical file storage and recovery from flood or fire damage.

Green initiatives include utilization of multi-functional devices with ENERGY STAR® requirements that can cut energy use by 60 percent and may realize additional savings on air conditioning and maintenance. Selection of printers should include a recyclable design, which may include labeled parts, minimal coatings, and easy dismantling.

Other features include automatic double-sided printing and postconsumer recycled content material for both toner cartridges and paper. Copiers with automatic double-sided copying capability help save paper and energy. Depending upon how frequently the feature is used, double-sided copying or duplexing can reduce paper use and saves energy because it takes much more energy to manufacture a piece of paper than it does to copy an image onto it.

Another trend is the conversion from single-purpose machines to multi-functional peripherals that serves several functions and can act as a printer, a scanner, a fax machine and a photocopier. This can reduce costs, save space and reduce energy consumption.

4.6 eGov and Communications

A major part of your role is communicating with the Commonwealth's constituents with documents that tell more about its services and that tell more about all of the reasons for working, living and playing in Virginia!

Documents that onboard constituents to receive services and documents allows one to tell one set of users about other services that could be made available to them.

The role communications play in the effectiveness of the various State's agencies and departments and the branding of those communications is just now beginning to be fully understood. Done well, communications can accelerate the right customer behaviors, reduce customer service costs and build customer loyalty. Yet these same communications not optimized to the manner in which the end users process information can work against you in ways you may not be aware of, and with substantial hard and soft costs.

Using the latest techniques in design and human behavioral science, communication engineering services are re-inventing communications. Communication engineering creates paper and digital communications grounded in scientific methods to dramatically improve the effectiveness of mission critical communications from statements, customer correspondence and policies, to loyalty programs.

Constituent relationship communications can provide a number of significant benefits for the Commonwealth:

- **Increase response rates with multi-channel communications:** Leverage your customer (end-user or constituent) information to create relevant, personalized, multi-channel communications to targeted audiences.
- **Improve customer behavior to use the most efficient and effective means possible of communicating, whether it be physical, audio or electronic:** Into today's digital world, the desire to making informed decisions is becoming more demanding every day. Whether it is taking action or receiving information, the Commonwealth is and will continue to examine ways in which they can deliver customized content, including the ability to push and pull secured data via multiple channels.
- **Reduce costs:** Tailor communications to targeted audiences to eliminate waste found in mass audience campaigns. One example in improving response rates while reducing your cost per lead and drive down production and delivery costs is to use multiple forms of media, based on the audience and their familiar way of communicating with others (i.e., text messaging)..
- **Maximize your investment:** Extend the life and value of the Commonwealth's media assets. Automate the re-purposing and reuse of content while ensuring brand consistency in online and offline integrated communications programs

Now is the time for Virginia to:

- **Take advantage of the latest technologies** to help the agencies and departments connect and communicate more efficiently and effectively through outsourcing services specializing in these multi-channel areas.
- **Accelerate migration to a 1:1** marketing environment from simple personalization to highly-targeted, relevant and timely information with the greatest yield of converters
- **Lower the Commonwealth's communications TCO (total cost of operations)** by outsourcing communications logistics and reinvest savings in campaigns to deepen channel intelligence.
- **Continue to leverage Virginia.gov and all of the other eGov sites.**

4.7 Digital Document Storage, Imaging and Consolidation

The average office worker spends up to half of their workday searching for simple information! A digital document storage system will not only increase worker productivity, but also reduce department or agency costs.

The process of converting paper documents into electronic files serves as the catalyst for today's innovative electronic document storage systems. These systems allow documents to be captured at their source and enable organizations to reduce manual operational errors which frequently result in lost or misplaced documents.

This is the challenge that departments and agencies are facing today—to take fragmented repositories of information and combine them into one, concise system. Users can reap the benefits of new document converging technology as paper, digital and email documents are finally able to be handled by one system.

- Scanners and Multi-Function Systems enable the rapid conversion of paper documents into common digital formats like PDF files. These documents can be sent as email attachments or directed to a network folder.
- Optical Character Recognition technologies convert scanned text into editable text. Documents can be scanned directly into applications like Microsoft Word where they can be edited.

- Electronic Document Management Systems provide a central repository for scanned images, electronic documents and emails.

4.8 Mobile Printing

Basically, the solution works by allowing users to send an e-mail from their mobile device (with the desired file for printing as an attachment) to a mobile print server, which is located on the department's or agency's network. The print server will then e-mail back a release code to the user. The user then simply waits until they have access to any enabled device on the network. By entering the release code, the desired attachment will be sent from the mobile print server to the appropriate device for printing.

This industry solution does offer some interesting capabilities that could prove attractive to particularly those departments with a broad deployment of mobile workers.

5. Recommendations

5.1 Printer, Copier and Multi-functional Products

In tough economic times, many state and local governments delay or eliminate the purchase of new equipment. Virginia must also make strategic investments so that they are properly positioned to take advantage of growth opportunities when the recovery begins. Multifunction products (MFPs) and managed print services (MPS) are two strategies that organizations are using to reduce the total number of print assets in their environment and to better manage their printing fleets.

Today's MFPs not only incorporate copy, print, fax and scan functions; they can also capture and digitize paper content for more-efficient movement and storage of information. Agencies should review their output fleets and understand the associated costs. Whether large or small, agencies within the State of Virginia will benefit greatly from incorporating MFPs into their environments to replace aging single-function devices, such as printers and copiers. A balanced deployment of both printers and MFPs is recommended for most printing environments.

Each State agency should:

- Develop an asset list that includes all relevant data for printers, fax machines, scanners, copiers
- Develop a document strategy that is customized based on the Agency's document creation and production requirements (i.e., content management and work process improvements)
- Implement print management best practices- (i.e., set duplex printing as the default on all print drivers)
- Identify key sources of print volume and paper consumption.
- Develop a strategic plan for asset consolidation

5.2 Managed Print Services (MPS)

5.2.1 What is Managed Print and Why Does the Commonwealth of Virginia Need to Consider Managed Print Services?

If you add it up, managing enterprise output requires a lot of people time, network bandwidth and money. Conservative estimates for enterprise output costs are 3% of annual revenue. In document-intensive agencies or departments, it can be as high as 15%. Even in a small agency, that can be a big number.

Do the math and then decide if you're interested in saving up to 30% of your Enterprise print spend. Whether the agency is small, medium, or large agency, each is attempting to establish a leaner cost structure. Managed print services is one of the low-hanging fruit. More controls can also be put in place for the individual desktops outside of those being managed through VITA's network.

"Active print management initiatives can cut print costs by up to 30%."

Source: Gartner, *Cost Cutting Initiatives for Office Printing*

5.2.2 Does Your Document Strategy Include the Operational and Financial Discipline to Lower Costs?

Managed Print Services done right will provide the Commonwealth with the following benefits:

- Right-sizing the output infrastructure—driving utilization and productivity up, driving costs down
- Environmental Sustainability—to ensure the long-term viability of the business from a human, natural and economic resources standpoint
- Proactive support—more uptime, less stress, more happy employees

- Continuous process improvements—monitoring the environment to deliver sustainable results
- Leverage the platform to improve business process and integrate workflow— introducing new and better ways to work
- MPS removes the responsibility of managing printing from the agencies' and departments' IT as well as from the day-to-day acquisition of services and products from procurement groups and gives that function to an organization that specializes in print management. This frees up precious time for the organization to focus on its core capabilities.

MPS provides measurable short- and long-term value to the organization with results that are highly replicable, scalable and sustainable.

5.2.3 Key Criteria for Selecting Managed Print Services as an Option

Managed print services (MPS) can help the Commonwealth reduce your office printing spending by 10% to 30%. But even organizations that understand how to choose their printer and multifunction product (MFP) suppliers can struggle with MPS provider selection. Most of the MPS providers' Web sites offer only vague indications of what they actually do, in part because MPS tends to be more customized than print hardware. Compounding the problem, more providers are offering MPS, including system integrators, most of the printer/copier manufacturers and dealers. One recommendation is to use the existing printer agreements and expand those to providing managed print services.

As a starting point, review Gartner's "Magic Quadrant for Managed Print Services Worldwide," which ranks the multiregional MPS providers. Then the Commonwealth should look to implement the following:

- The Commonwealth should establish a VITA Statewide Contract(s) for Managed Print Services
- Virginia Correctional Enterprises, the Commonwealth's mandated print provider, should be integrated into the print management strategy of state agencies.
- The Commonwealth should partner with industry to assess various agencies for purpose of establishing a business case for managed print services
- Turnkey solution and services business model typically include the following:
 - Provisioning of all hardware, consumables and output related services
 - Output strategy framework — compliance standardization
 - Operational excellence — tools for proactive and predictive SLA management and reporting
 - Customized helpdesk support
 - Management of in-place assets and suppliers
 - Asset ownership/refresh
 - Metrics driven decision making
 - Contractual continuous improvement
 - Preventative maintenance and break fix
 - Print job re-direct and dynamic color control
 - Consumables management and supplied
 - Effectively leveraging of current leased/purchased devices
 - End-user training
 - Change management partnership for cultural change
 - Utility program billing option

5.2.4 Managed Print Services Assessment

An assessment is the first step toward a managed enterprise print infrastructure. Industry experts agree whether a client's goals are to reduce cost or preserve headcount, improve Sustainability and "Green" goals throughout the environment, or to simply improve document-related processes, the Commonwealth start with an assessment of their current enterprise print infrastructure. Please see Appendix 6.1.3 for an

example of a study review of costs. The Task Force's recommendation is to complete a review of various agencies and/or departments to realize potential savings.

Actual data and agree on the cost structure to calculate the department's or agency's baseline. The assessment is conducted over a period of time that represents a typical environment in the Commonwealth. Three key areas should be given focus:

- The Customer—Gather voice-of-the-customer data from designated departments or agencies to identify specific requirements associated with applications, software or workflow processes. The process should include customer surveys, interviews and workshops to gain a complete understanding of the environment and valuable knowledge about your productivity bottlenecks.
- The Process—Analyze the environment and overall infrastructure currently in place. Tools such as process maps and workflow diagrams should be used for functional areas such as the help desk, mailroom, print procurement and processes such as maintenance escalation, supplies ordering and replenishment. Once a process has been mapped, it is a lot easier to see where value is being added. The goal is to have a process with only value-added steps.
- The Environment—Utilize a methodology with actual customer data gathered from users, procurement, finance and accounting. Implied costs or averages should not be used. This enables us to compile a complete set of data metrics that compares the Commonwealth's organizational performance to that of others in other states and industry. These metrics are the foundation for understanding the Commonwealth's opportunities.

5.3 Fax Automation

Industry best practices is to utilize a centralized, universal communications management system with the ability to send, receive, print, archive, and track faxes through the familiar environment of the multi-functional peripheral or email client. This would include with enterprise desktop faxing capabilities for all users.

Features would include:

- Enterprise network fax integration for all devices
- PDF conversion of fax messages to enable faxing to Blackberry or iPhone devices.
- Alerting capabilities including text to speech to send immediate notifications via fax, email, phone and text messaging.
- Desktop faxing capabilities for users providing the ability to receive and send fax documents to and from email
- Broadcast notification capabilities to deliver messages to multiple recipients

Benefits would include:

- Elimination of phone lines, fax machines, consumables and associated faxing costs
- Improved productivity for users as well as enhanced document security and audit trail
- Additional steps towards goals to become a more paperless environment
- Critical communication and notification capabilities whenever necessary eliminating call trees, manual processes, and improving the effectiveness and timeliness of distribution of information

5.4 Migration toward Electronic Document Management and Communications

There are several trends are driving the rapid adoption of electronic document management technology allows one to scan all paper documents to create a searchable and secure filing system.

- **Low Costs of Electronic Storage.** It is now possible to store ten filing cabinets full of paper in one gigabyte of electronic storage.
- **Familiarity with Computer Applications.** Today, everyone is trained to be familiar with common computer applications. This means adoption time and training for new applications is minimal.
- **High Speed Scanners and Multi-functional Copiers.** Documents can be scanned quickly and conveniently with sheet-fed scanners, available on most new digital office copiers.

Departments and agencies should re-assess their office technology and service requirements in light of the integrated service portfolios that the industry is now offering. The focus should increasingly be on the business process and how to improve knowledge worker productivity, not only on how to reduce equipment and supplies costs.

5.5 Assessment of Key Departments

An Assessment is the first step toward a managed enterprise print infrastructure.

Industry experts agree whether a client's goals are to reduce cost or preserve headcount, improve sustainability and "Green" goals throughout the environment, or to simply improve document-related processes, clients should start with an assessment of their current enterprise print infrastructure.

Typical deliverables include an updated asset management list, a true and credible TCO baseline, enabling the Commonwealth to better understand cost savings, and a clear understanding of current asset numbers and usage patterns.

As a result of the assessment, potential savings will come through:

- **Equipment Cost.** Excess devices can be reduced. A more flexible managed print environment allow for departments' and agencies' changing needs without requiring capital expenditures/flex with volume. Removal and replacement of aging and costly devices can be better managed.
- **Supplies Cost.** Inventory levels and waste can be reduced through proactive supplies management, JIT inventory management and with fewer SKUs, thereby creating economies of scale.
- **Service Cost.** Service cost can be reduced through pre-emptive/proactive device management resulting in reduced helpdesk calls. Break fix supplier/proactive support can be more centralized as well.
- **Power Consumption.** Asset optimization can deliver 40 – 50% savings in device power consumption

5.6 Focus on Reducing Hard or Direct Costs

- | | |
|---------------------------------------|--|
| • Copiers, printers, scanners | • Management software |
| • Ink/Toner | • Landfill waste |
| • Paper | • Storage (documents, paper, technology) |
| • Maintenance kits | • Monthly minimums |
| • Power | • Phone lines (fax) |
| • Space | • Transportation of printed materials |
| • Network drops | • Firewall, Security |
| • Disposal (paper, technology, waste) | • Vended print |

5.7 Focus on Reducing Soft Costs

- Downtime/availability
- Direct support at desk
- Helpdesk
- Asset-tracking
- Audit
- Application alignment
- Application development
- Compliance
- Training
- Network integration
- Print drivers
- Departmental time
- SLA management (lack of) if none exist
- Lost documents
- Reprinted documents
- Age of printed documents (average life of a document could be less than a day)

6. Appendix

6.1 Attachments

6.1.1 VITA Comprehensive Infrastructure Agreement (Section 10.1.3)

6.1.2 Actual Device Standards in the VITA End-User Services Hardware Standards Book (VITA-DCS0004, Version 1.11)

6.1.3 Sample Study Result

		Total Monthly Pages	Monthly B/W Pages	Monthly Color Pages	B/W PPI	Color PPI	Total Monthly Expense	% of Total
Associates	54,573							
Locations	2,200							
Network Printers (3,000 AMPV)	5,911	17,733,000	15,959,700	1,773,300	0.046	0.17	\$ 1,035,607	53.9%
Desktop Printers (500 AMPV)	22,000	11,000,000	9,900,000	1,100,000	0.046	0.17	\$ 642,400	33.5%
MFD's/Copiers (7,000 AMPV)	591	4,137,000	3,723,300	413,700	0.046	0.17	\$ 241,601	12.6%
Monthly		32,870,000	29,583,000	3,287,000			\$ 1,919,608	
Annual		394,440,000	354,996,000	39,444,000			\$23,035,296	
5 Year		1,972,200,000	1,774,980,000	197,220,000			\$115,176,480	
Potential Monthly Savings at 20%							\$383,921.6	
Potential Annual Savings at 20%							\$4,607,059.20	
Potential 5 Year Savings at 20%							\$23,035,296.0	
Total Devices	28,502							
User to Device Ratio	1.9 : 1							
Monthly Expense Per User	\$ 35.18							
Monthly Cost Per Page	\$ 0.058							